

REMARKS

Final Rejection

Applicants request that the final rejection status be withdrawn. The same references were applied by the Examiner in the RCE as were applied in the previous final rejection, However, Applicants note that the substantive change to the one main claim (by adding the term "deformed" to characterize the relationship between the annular web 16 and the upper edge of the neck) together with Applicants' remarks resulted in an extensive rejection. Only in the broadest sense can this Final Action be deemed to be the same grounds for rejection.

The New Claims

The sole independent claim (new claim 16) has been substantially rewritten to highlight the structure that provides the three gas seals. Applicants believe they have more explicitly and clearly set forth the structural features that create the three gas seals. Claim 16 recites the structure that provides each of the three gas seals and thus sets forth a clear and distinctive recitation of the invention and highlights the

manner in which it patentably distinguishes over the references cited.

On Sealing

Applicants' invention is directed to structures that create an enhanced gas seal. This is explicit in the application discussion at page 4, lines 4-20. Reference is made to the "first gas seal", "second gas seal" and "third gas seal" at page 5, lines 4-8.

The structures which provide these gas seals are recited in the main claim. These structures include the following:

a. The deformation of the web 16 by the upper edge of the neck 8 when the lid is mounted on the receptacle.

b. The upward facing free end of the flange 20 on the lid engaging the downwardly facing annular shoulder 14 on the receptacle.

c. The tension in the skirt 18 caused by the deformation of the web 16 and resulting in the forceful engagement of the upward facing flange 20 and the downward facing shoulder 14.

d. The resilient hinge 22 that mounts the annular flange 20 on the skirt 18 portion of the lid and that forces the side of the flange against the side of the receptacle.

These engagements provide deformation and tension for the purpose of creating the three gas seals referred to above.

Concerning Dutt '435

Dutt '435 discusses high pressure seals and sealing against leakage (see column 2, lines 38-60). However, the structures shown in Dutt are different than those taught and claimed by Applicants. Applicants' structure differs and provides a more effective set of gas seals. To obtain Applicants' first gas seal, it is necessary that some portion of the lid be deformed when the lid is applied to the container so that a forceful engagement can be maintained between some portion of the lid and some portion of the container to effect a gas tight seal.

This is done in Applicants' device by having the web 16 deform on assembly so that the flange 20 and shoulder 14 be held in the first gas sealing state. The skirt 18 is held in tension because of this web 16 deformation so that the upwardly facing edge of the flange 20 and downwardly facing shoulder 14 remain in tight engagement creating the second gas seal.

Dutt's lid is thick and rigid (column 6, lines 40-43). Thus no portion of the lid on Dutt can distort and thus cannot

provide the kind of forceful first gas seal engagement taught by Applicants.

The effectiveness of any sealing relationship is in large part a function of the tolerances maintained on the dimensions of the relevant portions of the engaging elements that form the seal.

A value in the structure taught by Applicants is that it has a geometry which provides effective gas seals that can be maintained with reasonable dimensional tolerances. The geometry that creates this tolerance effect includes the ability of the web 16 to be deformed by the upper edge of the neck when the lid is fastened on the receptacle.

The deformation of the web 16 pulls on the skirt 18 which forces the flange 20 against the shoulder 14 thereby creating tension in the skirt 18. This tension creates effective sealing in each of the three gas seals.

In brief, the structural design which creates the three gas seals is the combination of: (a) deformation of the web 16, (b) tension in the skirt 18, (c) the resilience of the hinge 22, (d) the position of the free end of the flange 20 against the shoulder 14, and (e) the position of the side of the flange against the side of the container.

These structural elements operate together to assure effective sealing.

The third seal is a back-up seal. If the first seal is compromised, gas under pressure will impinge on the outboard side of the flange 20 forcing the free end of the flange inward against the side of the neck to provide the third gas seal (see page 9, line 23 - page 10, line 1). There is nothing like that in Dutt.

The References In Combination

Applicants appreciate that the Examiner's rejection are on the combination of the Dutt '435 Patent in view of the Yost '818 Patent.

Applicants suggest that any possible combination of the two references will result in an inoperable device and, no matter how one looks at it, it certainly does not result in Applicants' claimed design.

As to the Yost '818 Patent, Applicants see no feature which is comparable to the resilient hinge 22 about which the flange 20 rotates.

Overview

Applicants submit that there is no way, except possibly for hindsight, to combine features of the references to Applicants' structure or Applicants' functions.

In brief:

1. A first and primary gas seal is provided by the deformation of a web 16 by the upper surface of the neck. This deformation is maintained by the tension in the skirt 18 which forces the flange 20 against the shoulder 14.

2. If the pressure in the container builds up to provide an upward force on the web 16, then any movement of the web 16 increases the tension in the skirt 18 thereby increasing the force between the flange 20 and the shoulder 14 and thus increasing the effectiveness of the second gas seal.

3. If the gas pressure in the container is sufficient so that some of it leaks past the upper surface of the neck, such will build up pressure in the zone that includes the area between the flange 20 and the skirt 18. This increased pressure increases the force with which the third gas seal is maintained; that third gas seal being between the neck and the outer edge of the flange.

This novel back up gas sealing function is provided by the novel structure claimed. Applicants suggest that this is a distinctive indication of patentability.

SUMMARY

The technology and materials needed for Applicants' invention have been available for decades. Yet no one has put together this combination of structural features. By itself that is significant evidence of non-obviousness.

Yet there is value in the enhanced sealing provided by Applicants' enhanced sealing arrangement. Applicants suggest that such value is evidence that it was not obvious to devise their invention because if it were obvious, it would have been done.

Applicants suggest that the best inventions are a model of simplicity. It is of the highest order of ingenuity to do more with less. Applicants achieve enhanced sealing with a minimum of parts and elements. It took invention to achieve such.

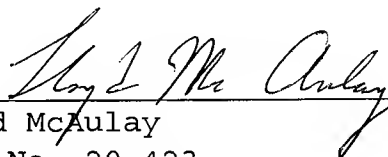
Simple inventions are often the best, the most useful and the most economic. They tend to appear straight forward after they are disclosed because of their simplicity. Yet if they are so evident after disclosure, does that not suggest how non-obvious they were before disclosure?

In brief, how often have we said: "Why didn't I think of that", after someone points out what should have been but what was not evident.

Accordingly, it is submitted that Applicants' two piece provision of a triad of successive sealing zones warrants a patent and such is respectfully requested.

The Commissioner for Patents is hereby authorized to charge any additional fee to Account No. 03-3415.

Respectfully submitted,



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